

CLAIMS

We claim:

1. A method for preparing a photoresist layer for e-beam inspection comprising:
 - 10 out-gassing said photoresist layer whereby an outgas from said photoresist layer during said e-beam inspection is substantially prevented.
 2. The method for of claim 1 wherein:
 - 15 said step of out-gassing said photoresist layer further comprising a step of implanting ions into said photoresist layer to activate an out-gassing from said photoresist layer.
 3. A method for preparing a photoresist layer for e-beam inspection comprising:
 - 20 increasing a conductivity of said photoresist layer whereby electric charging of said photoresist layer during said e-beam inspection is substantially prevented.
 4. The method for of claim 3 wherein:
 - 25 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting conductive ions into said photoresist layer to increase a conductivity of said photoresist layer.
 5. The method for of claim 3 wherein:
 - 30 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting carbon ions into said photoresist layer.

6. The method for of claim 3 wherein:

5 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting indium ions into said photoresist layer.

7. The method for of claim 3 wherein:

10 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting Sb ions into said photoresist layer.

8. The method for of claim 3 wherein:

15 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting silicon ions into said photoresist layer.

9. The method for of claim 3 wherein:

20 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting metallic ions into said photoresist layer.

25 10. The method for of claim 3 wherein:

30 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting a conductive ions at an implanting energy approximately 1000 ev into said photoresist layer.

11. The method for of claim 3 wherein:

5
said step of increasing a conductivity of said photoresist layer further comprising a step of implanting a conductive ions having an ion dosage in a approximate range $10^{16} / \text{cm}^2$ to $10^{18} / \text{cm}^2$ into said photoresist layer.

10
12. The method for of claim 3 wherein:

15
said step of increasing a conductivity of said photoresist layer further comprising a step of plasma immersing ion implant a conductive ions into said photoresist layer.

20
13. The method for of claim 3 further comprising:

25
out-gassing said photoresist layer whereby an outgas from said photoresist layer during said e-beam inspection is substantially prevented.

30
14. The method for of claim 13 wherein:

25
said step of out-gassing said photoresist layer further comprising a step of implanting ions into said photoresist layer to activate an out-gassing from said photoresist layer.

30
15. A photoresist layer for integrated circuit manufacture processed for e-beam inspection comprising:

30
an out-gas content less than 0.5 percents thus substantially prevent out-gassing from said photoresist layer during said e-beam inspection.

16. A photoresist layer for integrated circuit manufacture
5 processed for e-beam inspection comprising:

an electric resistivity less than 2000 ohm/cm² thus
10 substantially prevent an electric charging of said
photoresist layer during said e-beam inspection.

17. A photoresist layer for integrated circuit manufacture
15 comprising:

10 implanted conductive ions for increasing a conductivity of
said photoresist layer.

15 18. The photoresist layer for of claim 17 wherein:

18 said implanted conductive ions further comprising
15 implanted carbon ions.

20 19. The photoresist layer for of claim 17 wherein:

20 said implanted conductive ions further comprising
25 implanted indium ions.

25 20. The photoresist layer for of claim 17 wherein:

25 said implanted conductive ions further comprising
30 implanted Sb ions.

30 21. The photoresist layer for of claim 17 wherein:

30 said implanted conductive ions further comprising
implanted silicon ions.

22. The photoresist layer for of claim 17 wherein:

 said implanted conductive ions further comprising
 implanted metallic ions.